

2004 Infection Control and Lab Update

**Satellite Conference
Wednesday, August 11, 2004
2:00-4:00 p.m. (Central Time)**

Produced by the Alabama Department of Public Health
Video Communications Division

Faculty

**Charlotte Denton, RN, BSN, CIC
Director, Infection Control Section
Bureau of Communicable Disease
Alabama Department of Public Health**

**Jodi B. Jackson, BS MT(ASCP), MHA
Assistant Director
Quality Management Division
Alabama Department of Public Health**

Objectives

- Define the term “bloodborne pathogens” and name three pathogens of concern to health care workers.
- List four of the components of the OSHA Bloodborne Pathogens Standard.
- Discuss the importance of standard precautions.
- State the importance of the Needlestick Safety and Prevention Act.

Objectives

- Define respiratory hygiene.
- Review problems found during onsite laboratory visits to county health departments.
- Give an overview of the Laboratory Information System.
- Review the required information on laboratory forms.
- Review specimen requirements, packaging and shipping.

OSHA Bloodborne Pathogens Standard

Details what employers must do to protect workers whose jobs put them at a reasonable risk of coming into contact with blood and other potentially infectious materials.

Bloodborne Pathogens

Healthcare workers are at risk for occupational exposure to:

- HIV
- Hepatitis B (HBV)
- Hepatitis C (HCV)

Bloodborne Pathogens Exposures Occur:

- Through needlesticks or cuts from sharp instruments contaminated with infected person's blood.
- Through contact of the eye, nose, mouth or skin with blood.

Risk of Infection Following An Exposure Depends On:

- The pathogen involved.
- The type of exposure.
- The amount of blood involved in the exposure.
- The amount of virus in the patient's blood at the time of exposure.

Components of the Bloodborne Pathogens Standard

- Development of an Exposure Control Plan.
- The Use of Engineering Controls.
- Enforcement of Work Practice Controls.

Needlesticks

- The CDC estimates that 385,000 needlesticks (some 1,000 every day) are sustained by hospital-based health care personnel annually.
- Similar injuries occur in all other health care settings.
- 50% or more of healthcare personnel do not report their occupational percutaneous injuries.

Standard Precautions



Components of the Bloodborne Pathogens Standard

- Provision of Personal Protective Equipment (PPE).
- Administering hepatitis B Vaccine to employees at occupational exposure risk to HBV.

Components of the Bloodborne Pathogens Standard

- Post-exposure prophylaxis (PEP) following exposure incidents.
- The use of labels & signs to communicate hazards.

Components of the Bloodborne Pathogens Standard

- Provision of information and training to employees.
- Maintenance of employee medical and training records.

Hand Hygiene

- When hands are visibly soiled with blood or other body fluids:
**Wash hands with either a non-antimicrobial soap and water OR an antimicrobial soap and water.

Hand Hygiene

- If hands are not visibly soiled:
** Use an alcohol-based hand rub for routinely decontaminating hands.

Respiratory Hygiene

- Cover the nose/mouth when coughing or sneezing.
- Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use.
- Perform hand hygiene after having contact with respiratory secretions and contaminated objects/materials.

Hepatitis C Virus (HCV) Facts

- An average of 25,000 cases reported annually in the U.S.
- An estimated 3.9 million (1.8%) of Americans have been infected with HCV, of whom 2.7 million are chronically infected.
- Is the leading indication for liver transplants.

HCV Transmission

- Spread primarily by direct contact with human blood:
 - sharing needles or syringes to inject drugs
 - occupational exposures to infected blood (i.e., health care workers)
 - from infected mothers to their newborn
 - (about 5 out of every 100)
 - sex with an infected person
 - sharing razors, toothbrushes, etc.

HCV Signs and Symptoms

- 80% of persons have no signs or symptoms
- Jaundice
- Fatigue
- Dark urine
- Abdominal pain
- Loss of appetite
- Nausea

Long-Term Effects of HCV

- 75-85% of infected persons develop chronic infection.
- 70% of chronically infected persons develop chronic liver disease.
- 1%-5% of infected persons may die from chronic liver disease.

Vaccine

- There is NO VACCINE to prevent Hepatitis C

Prevention Measures

- Do not share personal care items that may have blood on them (razors, toothbrushes).
- As a HCW, always use Standard Precautions using barrier precautions and safe handling of sharps.
- Do not shoot drugs.
- Practice safe sex.

The Core Elements of Standard Precautions

- Handwashing after patient contact.
- The use of barrier precautions (gloves, gowns, and facial protection) to prevent mucocutaneous contact.
- Minimal manual manipulation of sharp instruments and devices.
- Proper disposal of sharps in puncture-resistant containers.

Adherence to Fundamental Infection Control Principles

- Appropriate aseptic techniques and safe injection practices.
 - The use of a sterile, single-use, disposable needle and syringe for each injection.
 - Prevention of contamination of injection equipment and medication.

Adherence to Fundamental Infection Control Principles

Use of single-dose vials rather than multiple-dose vials whenever possible, especially when administering to multiple patients.

Adherence to Fundamental Infection Control Practices

Patient Care Equipment:

- Handle contaminated equipment in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other patients and surfaces.
- Clean and disinfect blood contaminated equipment and surfaces in accordance with recommended guidelines.

Problems Found During Onsite Visits

- Dirty HemoCues
- Monthly HemoCue maintenance not documented
- No room temperature documented every day Hemocue is on use
- No centrifuge maintenance log started for the year
- Finding expired tubes, etc.

Problems

- No documentation of corrective action when temperatures are out of range.
- Not timing pregnancy tests and urine dipsticks.

Sysware – Laboratory Information System

- BCL's first lab-wide information system.
- Will encompass all testing performed by BCL.
- County Health Departments will have the ability to order review, and print patient laboratory results through a PHALCON interface.
- Walker CHD will serve as the pilot county for this interface.

Lab Information System

- Remainder of the CHDs will be brought online by areas.
- CHDs will also have the ability to print limited statistical reports.
- If there is a special statistical report needed by a county, a request can be made to CSC and it can be queried by DBMs.

Laboratory Requisition Concerns

- Names on requisition and collection container do not match – WATCH SPELLING.
- No request received with the specimen.
- Specimen and request received on different days.

Laboratory Requisition Concerns

- No provider name and/or provider address on requisition.
- Requests are placed inside the mailing canisters.

Laboratory Requisition Concerns

- No collection date on requisition.
- No specimen type marked on requisition.
- PHALCON labels not placed on all copies of the requisition.
- Requisition has blood on it.

Laboratory Specimen Concerns

- No specimen received with requisition.
- QNS specimens – not enough specimen, especially with VDRLs and HIVs.
- Respiratory disease must have 5-10 ml of sputum to test specimen.

Laboratory Specimen Concerns

- Specimen not sent to laboratory immediately.
- Leaky respiratory disease specimens – causes major problems.

Laboratory Packaging Concerns

- Tyvec envelopes should have return address.
- Tyvec envelopes should be marked with type specimens.
- Serology – HIV, VDRLs, TP-PAs, MCH-FPs.
- Clinical Services – Chemistry profiles, clinical and environmental leads, viral loads, CBCs, CD4s, and T4s.

Laboratory Packaging Concerns

- Microbiology – Gonostats, GC cultures, urine cultures, enteric cultures, parasitology specimens.
- Respiratory Disease – TB specimens and fungal specimens.
- Metabolic – All newborn screening specimens.

Laboratory Packaging Concerns

- BCL is not ordering Tyvec envelopes anymore, so CHDs will have to write specimen type on replacement manila envelopes when Tyvecs are no longer available.
- Make sure lids on sputum conical tubes are screwed on correctly and finger tight.
- **DO NOT PLACE ANY REQUISITIONS INSIDE SHIPPING CANISTERS!!!!!!**

Laboratory Packaging Concerns

- Please don't tape paper towels around blood collection tubes, just wrapping it around the tube will be great!
- Try not to pad the bottom and top of the tubes with cotton balls – it is difficult to get them out of the bottom of the canister. Please use crumpled paper towels if you need padding – much easier to remove.

Laboratory Packaging Concerns

- Please use both small and large canisters when shipping specimens.
- Make sure both lids are screwed on finger tight – do not cross thread lids.
- Do not rubber band requisitions around canisters that are placed in Tyvec envelopes– just stuff them in the Tyvec envelope with the shipping canisters.

Laboratory Packaging Concerns

- If you are only sending specimens in shipping canisters, please rubber band requisitions with color strip showing, around the canister – the color coding helps the laboratory to sort the specimens by division.

Laboratory Packaging Concerns

- Please use only one rubber band around the requisition and canister – and only wrap a couple of times to secure the requisition to the canister.

Laboratory Packaging Concerns

- The Montgomery State Laboratory receives approximately 300-350 VDRLs and 450-500 HIVs a day – this does not include all the other specimens, so being able to see the color coding helps a lot when sorting specimens by division.

Laboratory Packaging Concerns

- There have been problems with specimens being misplaced or lost for the moment - when the LIS is in place, the CHD will be able to print a manifest of what they are sending to the laboratory.

Upcoming Programs

Chemical Agents of Opportunity for Terrorism

Thursday, August 12, 2004
12:00-1:30 p.m. (Central Time)

Radiological Terrorism

Thursday, August 19, 2004
12:00-1:30 p.m. (Central Time)

Upcoming Program

The Behavioral Health Response to Disasters

Tuesday, August 24, 2004
2:00-4:00 p.m. (Central Time)

For a complete listing of all programs,
visit our website:
www.adph.org/alphn